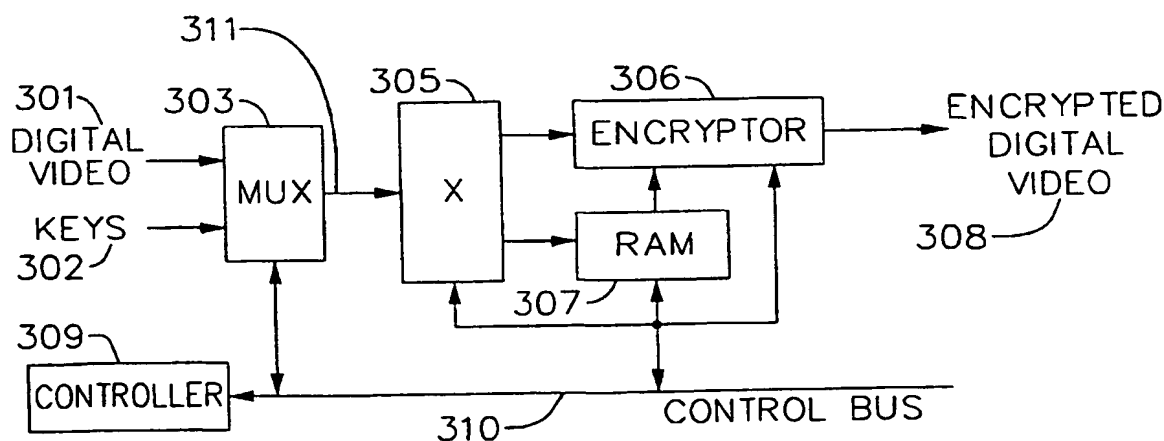


(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
8 November 2001 (08.11.2001)

PCT

(10) International Publication Number
WO 01/84836 A3

- (51) International Patent Classification⁷: **H04N 5/913**
- (21) International Application Number: **PCT/US01/13423**
- (22) International Filing Date: **27 April 2001 (27.04.2001)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
60/200,194 28 April 2000 (28.04.2000) **US**
- (71) Applicant (for all designated States except US): **BROADCOM CORPORATION [US/US]; 16215 Alton Parkway, Irvine, CA 92618-3616 (US).**
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **OLSON, Erlend [US/US]; 16215 Alton Parkway, Irvine, CA 92618-3616 (US). ROGOFF, David [US/US]; 16215 Alton Parkway, Irvine, CA 92618-3616 (US). PETILLI, Steven [US/US]; 16215 Alton Parkway, Irvine, CA 92618-3616 (US). ZAJAC, Oleh [US/US]; 16215 Alton Parkway, Irvine, CA 92618-3616 (US).**
- (74) Agent: **JEON, Jun-Young, E.; Christie, Parker & Hale LLP, 350 W. Colorado Blvd., P.O. Box 7068, Pasadena, CA 91109-7068 (US).**
- (81) Designated States (national): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.**
- (84) Designated States (regional): **ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).**
- Published:
— with international search report
- (88) Date of publication of the international search report:
4 April 2002
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **CRYPTOGRAPHIC KEY DISTRIBUTION SYSTEM AND METHOD FOR DIGITAL VIDEO SYSTEMS**

(57) Abstract: A system and method for distribution of cryptographic keys to data encryption and decryption devices used to protect digital video/multimedia data transmitted over a display link between a digital video/multimedia source and a display device are provided. The digital data (302) from a digital video/multimedia source, such as, for example, a Digital Versatile Disk (DVD) player, is encrypted (306) prior to transmission on the display link. The encrypted digital video/multimedia data (308) is received from the display link transmitter, decrypted and sent to a display device. Secure digital data input lines are used to load cryptographic keys (302) into RAM (307) on the same integrated circuit as the encryption device (306). A public key system is used to cipher the video decryption keys, so that the decryption keys can be sent to the display link receiver. Use of key management and storage that are external to the data encryption or decryption devices enables downloading of new keys from external key sources.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/13423

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H04N5/913		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 H04N		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 951 019 A (HITACHI, LTD.) 20 October 1999 (1999-10-20) the whole document --- -/--	1, 2, 4, 6-8, 10, 12, 16, 18, 19, 22, 24, 26, 27, 30, 32, 34, 35, 38, 40, 42-45
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *G* document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
28 November 2001		05/12/2001
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Verleye, J

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/13423

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 977 438 A (HITACHI, LTD.) 2 February 2000 (2000-02-02) the whole document -----	1,2,4,7, 8,10,12, 16, 18-22, 24,27, 30,32, 34-38, 40,42-45
A	WO 99 22372 A (SONY ELECTRONICS, INC.) 6 May 1999 (1999-05-06) page 10, line 2 -page 15, line 4; figures 5A,5B -----	1,2,4,7, 8,10,12, 16,18, 19,21, 22,24, 30,32, 34,35, 37,38, 40,42, 44,45

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/13423

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 951019	A	20-10-1999	CN 1239293 A	22-12-1999
			EP 0951019 A2	20-10-1999
			JP 2000003559 A	07-01-2000
			JP 2001236729 A	31-08-2001
			SG 72943 A1	23-05-2000
			TW 425543 B	11-03-2001
EP 977438	A	02-02-2000	JP 2000048480 A	18-02-2000
			EP 0977438 A2	02-02-2000
WO 9922372	A	06-05-1999	US 6223285 B1	24-04-2001
			AU 1103599 A	17-05-1999
			EP 1012840 A1	28-06-2000
			TW 406260 B	21-09-2000
			WO 9922372 A1	06-05-1999